

## ANOTHER ARNICA FROM NEWFOUNDLAND.

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WHEN I published a study of the *Eastern American Representatives of Arnica alpina*<sup>1</sup> in 1924, in which seven species of this group were recognized from the Torngat Mts. of Labrador, the Long Range of Newfoundland and the mountains and cliffs of the Gaspé Peninsula, I was unaware that an eighth species had been collected by Messrs. Kenneth Mackenzie and Ludlow Griscom on Cape St. George, a western outlier of the Long Range. Mr. Griscom has most kindly placed in my hands for study a beautiful series of specimens, along with a perplexingly interesting collection of *Oxytropis*, *Potentilla* and other groups of arctic and cordilleran relationship, including the first *Carex concinna* R. Br. from Newfoundland and the first *Hedysarum Mackenzii* Richardson in eastern America.

The new Arnica grew on limestone barrens at Green Gardens, Cape St. George, where it was associated with *A. chionopappa* Fernald, *Kobresia simpliciuscula* (Wahlenb.) Mackenz., *Carex glacialis* Mackenz., *C. misandroides* Fernald, *Lesquerella arctica* (Wormsk.) Watson, *Dryas integrifolia* Vahl, var. *canescens* Simmons, *Antennaria eucosma* Fernald, and other specialties of the neighboring Table Mt., Port à Port; and the collectors very naturally supposed they had merely found a new station for *Arnica pulchella* Fernald of Table Mt.

The plant of Green Gardens is, however, quite distinct from *A. pulchella*, being equally close to *A. alpina* Olin & Ladau of the Arctic, *A. Sornborgeri* Fernald of the Torngat Mts. and *A. attenuata* Greene of Alaska and Yukon. From each of these it is distinguished by several characters and it may appropriately be called

ARNICA **terrae-novae**, n. sp., rhizomate gracili horizontali; caule simplici vel furcato 1.7–3.4 dm. alto sparse piloso supra lanato; foliis rosulatis lineari-lanceolatis vel anguste oblanceolatis 0.5–1.4 dm. longis 0.5–1 cm. latis, 3–5-costatis integris sparse pilosis plus minusve glandulosis; foliis caulinis 4–5-jugis, inferioribus anguste oblanceolatis petiolatis integris sparse pilosis papilloso-glandulosisque, superioribus valde reductis apice callosis; pedunculis solitariis 5–13 cm. longis nudis vel bracteolatis, bracteolis linearibus apice subulatis; capitulis 4.5–7 cm. diametro; involucro 1.3–1.5 cm. alto basi lanato; bracteis 13–20 rhomboideo-lanceolatis, exterioribus 2.7–4 mm. latis acuminatis laxe villosis; ligulis 9–13 luteis, lamina 1.6–2.5 cm. longa 5–8 mm. lata 9-nervata apice 3-dentata, dentibus acutis longioribus

<sup>1</sup> Fernald, RHODORA, xxvi. 103–107, t. 143 (1924).



3–8 mm. longis; corollis disci 8–9 mm. longis, tubo villosa 4–5 mm. longo; achaeniis 5.5–6 mm. longis hirsutis; pappo maturo 7.5–8.5 mm. longo albo, setis barbellulatis.

Rhizome slender, horizontal: stem simple or forking from the base, 1.7–3.4 dm. high, sparingly pilose, lanate at summit: rosette-leaves linear-lanceolate or narrowly oblanceolate, 0.5–1.4 dm. long, 0.5–1 cm. broad, 3–5-ribbed, entire, sparingly pilose and more or less glandular: cauline leaves 4–5 pairs; the lower narrowly oblanceolate, petiolate, entire, sparingly pilose, papillose-glandular; the upper much reduced, callous at tip: peduncles solitary, 5–13 cm. long, naked or bracteolate; the bracteoles (when present) linear, subulate-tipped: heads 4.5–7 cm. broad: involucre 1.3–1.5 cm. high, lanate at base: bracts 13–20, rhombic-lanceolate; the outer 2.7–4 mm. wide, acuminate, loosely villous: ligules 9–13, yellow; the blade 1.6–2.5 cm. long, 5–8 mm. wide, 9-nerved, 3-toothed at apex; the teeth acute, the longer 3–8 mm. long: disk-corollas 8–9 mm. long; the villous tube 4–5 mm. long: achenes 5.5–6 mm. long, hirsute: mature pappus 7.5–8.5 mm. long, white; its bristles barbellulate.—NEWFOUNDLAND: limestone barrens, Green Gardens, Cape St. George, July 24, 1922, *Mackenzie & Griscom*, no. 11,039 (TYPE in Gray Herb.).

From *A. alpina*, *A. terrae-novae* is at once distinguished by its more abundant and pilose leaves, broader involucre bracts, longer and sharper teeth of the ligules, longer disk-corollas and longer achenes; *A. alpina* having only 1–3 pairs of nearly glabrous cauline leaves (in *A. terrae-novae* the 4–5 pairs pilose), the outer involucre bracts 2–3 (in *A. terrae-novae* 2.7–4) mm. wide, the blunt teeth of the ligule only 1–2 mm. long (in *A. terrae-novae* the teeth acute, the longer 3–8 mm. long), the disk-corollas 6–7 (in *A. terrae-novae* 8–9) mm. long and the achenes 3–5 (in *A. terrae-novae* 5.5–6) mm. long.

*A. pulchella* differs from *A. terrae-novae* in being densely villous (both stems and leaves), with callous-toothed basal leaves and only 1 or 2 pairs of cauline leaves and in having smaller heads with few (only 8–10) densely villous bracts.

*A. Sornborgeri* is distinguished from *A. terrae-novae* by its more glandular-viscid short indument, callous-toothed leaves (the cauline only 2 or 3 pairs), the uppermost leaves attenuate to a delicate usually curved appendage, the involucre of only 10–12 linear- or lance-attenuate bracts 1.2–1.5 mm. wide and the achenes only 3.7–4.7 mm. long.

The northwestern *A. attenuata* commonly branches above, with several (up to 12 at least) heads; has the foliage closely pilose-tomen-



tose, the involueral bracts linear- to lance-attenuate and the teeth of the ligules only 0.5–2 mm. long.

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